



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,002	07/21/2003	Hidenobu Mikami	1007-020	5624

47888 7590 04/17/2006

HEDMAN & COSTIGAN P.C.  
1185 AVENUE OF THE AMERICAS  
NEW YORK, NY 10036

EXAMINER
----------

POULOS, SANDRA K

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/624,002	Applicant(s) MIKAMI ET AL.	
	Examiner Sandra K. Poulos	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Please note that the examiner for this application has changed.

All outstanding rejections and objections except for those described below are overcome by applicant's amendment filed 2/06/2006.

The text of those sections of Title 35, US Code not included in this action can be found in the prior office action.

In light of the new grounds of rejection set forth below, the following action is **NON-FINAL**.

### ***Specification***

2. The amendment filed 2/06/2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure (abstract). 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Line 1 of the amended abstract now recites "nitrate free grease".

Applicant is required to cancel the new matter in the reply to this Office Action.

3. The disclosure is objected to because of the following informalities: Page 9, "soda nitrite" should be corrected to "sodium nitrite".

Appropriate correction is required.

### ***Claim Objections***

Art Unit: 1714

4. Claim 1 is objected to because of the following informalities: In formula (2) there are  $R_2$ ,  $R_3$ , and  $R_4$  but when they are described below they are referred to without the subscript (i.e.  $R_2$ ,  $R_3$ , and  $R_4$ ). The same notation should be preserved throughout the claims. Claim 1 also recites "degree°C" wherein it is unnecessary to have both "degree" and "°" preceding "C".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

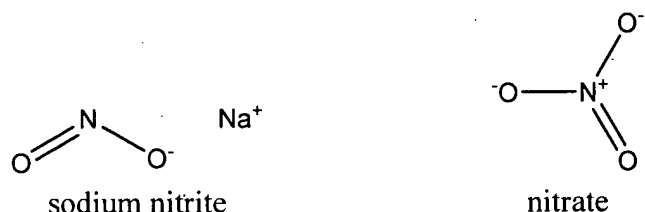
Claims 1, 3, 7-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 now recites that the composition is "nitrate free". It is the examiner's position that this phrase fails to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the phrase "nitrate free" in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for this

Art Unit: 1714

phraseology in the specification as originally filed. While there is support for exclusion of sodium nitrite on pages 2 and 3 of the specification, there is no support for excluding nitrate from the composition, nor is nitrate even discussed in the current application.

The differences in the chemical structures are illustrated below.



The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

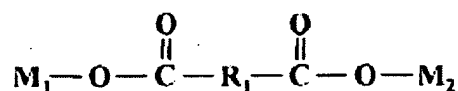
Claims 1, 3, 7-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More particularly, in claim 1 the formula (1) referred to as the metal salt of a dibasic acid, is not representative of such a compound. The claimed formula is



(note the oxygen-oxygen double bond rather than carbon-oxygen double bond below)

however, page 4 of the specification correctly represents the compound as:



Furthermore, the correct formula was present in the original claims but has been changed in the amended claims (without applicant acknowledging this change, thus it is assumed to be a mistake).

The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, 3, 7-13 rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-200273 (wherein a machine translation by JPO and the EPO abstract are referred to hereafter) in view of Naka et al (US 5,728,659).

JP '273 discloses a lubricant for bearings that has a long stable consistency and enhanced rustproofness (abstract). The lubricating grease composition is 42-96.9 wt% mineral or synthetic oil as the base oil, 3-40 wt% thickener, and 0.1-8 wt% dibasic acid salt (abstract). The oil is preferably synthetic and has a viscosity of 5 to 400 cSt at 40°C (para 7). Listed among the possible synthetic base oils is alkyl biphenyl ether (para 8).

The thickener can be present from 8 to 20 wt% (para 9). The sodium, lithium, or potassium salt of such dibasic acids as azelaic acid, sebacic acid, and adipic acid are

Art Unit: 1714

disclosed (para 14-15). Additives such as antioxidants and other rust-proofing agents are added in the amount of 0.01-10 wt% (para 17-19). The antioxidants include phenol and amine based compounds (para 18 and 24). The dibasic acids are used as a replacement for sodium nitrite rust-proofing agents (para 27). There are no nitrates in the composition.

JP '273 lacks an aromatic diurea thickener.

Naka '659 discloses a grease composition for rolling bearings containing a diurea thickener of formulas 1-3 (col 2, lines 8-44). The base oil has a kinematic viscosity of 40 to 400 mm<sup>2</sup>/s, preferably 80 to 150 mm<sup>2</sup>/s and examples of which include dialkyldiphenyl ethers (col 5, line 10-20; line 56 to col 7 line 30). Naka '659 discloses that any other known additives may be added to the composition to further improve its excellent properties (col 7, lines 31-33).

It would have been obvious to one of ordinary skill in the art to include the diurea thickener of Naka '659 in the composition disclosed by JP '273 because it provides a grease composition for a rolling bearing having a greatly prolonged bearing lubricating life and flaking life particularly under high temperature and high speed operative conditions of the bearings (col 2, lines 8-12). Furthermore, with respect to adding the thickener, it is well settled that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Lindner* 457 F.2d 506, 509, 173 USPQ 356, 359 (CCPA 1972).

***Response to Arguments***

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection set forth above.

9. Examiner has cited the references not in proper format in the IDS submitted 1/30/04, page 2, on the included PTO-892 with the corrected format (i.e. rather than "EPO search report" examiner has indicated the application number for which the search report was generated and for the Patent Abstract of Japan, examiner has indicated the publication number of the Japanese application from which the abstract is directed to).

10. From the examples in Table 1 and 2, Example 7 contains the thickener and base oil and Na sebacate, resulting in a rust preventative properties number of 0. Comparative Example 1 contains the same amount of thickener and base oil but without the Na sebacate, resulting in a rust preventative properties number of 0. Therefore, it appears that there are no unexpected results concerning rust prevention for the combination of the metal salt of dibasic acid and the thickener/base oil.

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Naka et al (US 5,498,357 {US equivalent of FR 2706169 on search report/IDS}) discloses a grease composition for bearing that comprises a lubricating base



Art Unit: 1714

oil of an alkyldiphenyl ether lubricant and having a kinematic viscosity of 90-160 cSt at 40°C, and 22-30 wt% of a diurea thickener. Sodium nitrite is present.

Asao et al (US 5,301,923) discloses a mixture of an aromatic diurea, alkyldiphenylether oil as a grease composition for bearings.

Koizumi et al (US 6,251,841) discloses a diurea thickener, alkyl diphenyl ether oil as a base oil, and recognizes the disadvantages of sodium nitrite rust proofing agents.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 7:30-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKP  
Sandra K. Poulos

*Vasu Jagannathan*  
VASU JAGANNATHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700